

Shipping MANAGEMENT



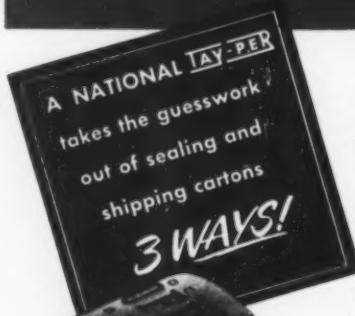
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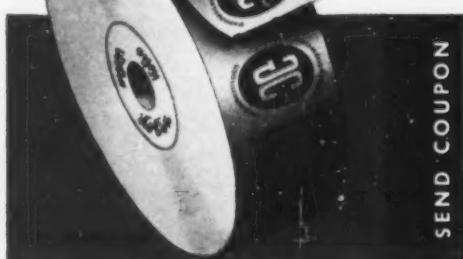
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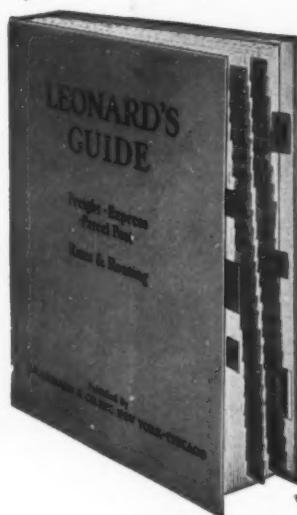
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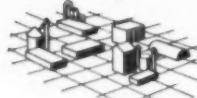
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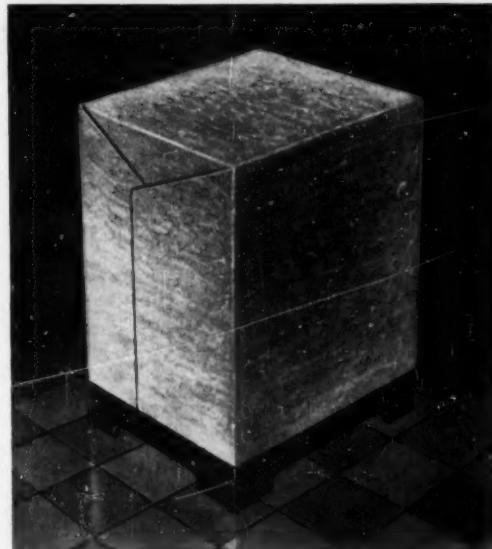
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Packing

A Punch.. By S. H.

TRAFFIC MANAGEMENT for business organizations is now a leading business study in the evening classes for adults in at least 33 of the country's large urban colleges. In fact it is one of the most frequently given of the highly specialized business subjects now offered in college evening study sessions.

These were the findings of Dr. Robert A. Love, president of the Association of University Evening Colleges, who has just completed a check of the business subjects of special importance to defense industry that are offered by his member institutions. The AUEC is composed of the evening divisions of 77 leading colleges and universities located in all parts of the country.

"Traffic management," said Dr. Love, who is also director of the huge Evening and Extension Division of the City College School of Business, New York, "is undoubtedly one of the most important business studies, and particularly so in a time of emergency like today. The colleges recognize its vital role not only in delivering goods but also in procuring materials. Not only are nearly half of the AUEC members already giving basic courses in this field, and sometimes advanced courses as well, but still others have expressed willingness to give them where desired by local business groups."

The courses, Dr. Love continued, represent the new type of highly specialized and practical business training now spreading rapidly over the country.

"Such courses," he added, "represent an efficient and economical means whereby persons in business jobs can brush up quickly on the specialized knowledge needed for effective performance. They supply the rounded understanding which is so essential to a creative approach in jobs in managerial and administrative departments.

"Because of the complexity of modern business, this rounded understanding of a job is becoming even more difficult to obtain by experience alone. Our contacts with the thousands of business people who come to us annually indicate that most people who win promotions do so without such understanding of their new job. They win the job on the basis of general ability and then spend months and even years mastering it. The employee and also his company are much better off when he speeds up his grasp of the work, as he can now do through study.

The colleges have now developed hundreds of courses covering the special problems faced in different business operations. These courses are commonly taught by experts from each field, so that the enrollee learns the most modern

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JANUARY, 1952

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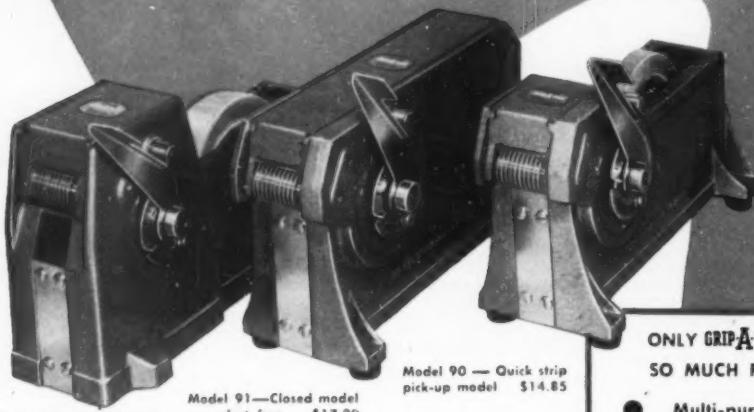
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Shipping MANAGEMENT

FOR SHIPPING AND TRAFFIC EXECUTIVES
425 FOURTH AVENUE, NEW YORK 16, N. Y.

JANUARY, 1952
VOLUME 17
NUMBER 1

Military Packaging: Old vs. New Methods

By N. L. RIPICH
Chief of the Ordnance Packaging Office
Rossford Ordnance Depot
Toledo, Ohio

Perhaps the most concise summation of the fundamentals of Method I, Method II packaging, and their allied forms, as well as Volatile Corrosion Inhibitors is contained in the article below, originally delivered as a speech at the Packaging Convention of SIPMHE.

I HAVE BEEN ASKED to speak on the subject of "Old Methods versus New Methods of Military Packaging." Let me explain first of all that I'm not going back to the Civil War to obtain old methods of packaging for my comparison; instead I'll stay in the relative present. I'm going back as far as the beginning of World War II, when most of the techniques and methods of modern military packaging were set up.

There is really only one statement which can be made on the subject of Old and New Methods of Military Packaging, that is, there is actually nothing new in packaging — not since 1943. To be sure, we have made changes — we *hope improvements* — in some phases of packaging, but these changes are nothing more than changes in technique. The Basic Concepts remain the same. Our mission — our objective — is the same as it has always been: We must protect military supplies in such a manner that whenever and wherever they are needed they will arrive in a serviceable condition. We accomplished our mission in World War II with three basic packaging methods: I, IA, and II. Techniques may have changed — materials

have certainly improved — but the methods remain the same.

Recently a packaging team representing the Technical Services of the Army visited Korea to observe the results of our packaging at first hand. They reported that, when current packaging and packing specifications were complied with, material was generally received by its ultimate users — American fighters — in serviceable condition. Reports from various sources within the past two years have indicated that material, packaged and packed according to specifications six and more years before, had been opened and found serviceable. A football coach will not heedlessly break up a winning combination. By the same token, why throw out specifications which have proven their worth?

Importance of Cleaning

Long ago we learned that the most important link in the chain of packaging was cleaning. Nothing has occurred since to cause anyone to believe differently. The fact still remains that cleaning must be done properly, thoroughly and intelligently or else all subsequent steps in the packaging process are in vain. So when JAN-P-116 is reissued under a MIL number — as it will be as soon as possible — the cleaning sections will remain the same. There will be a number of changes in this specification but they will all be changes which are designed to produce a more rugged

military package to better withstand long term storage and intense extreme climatic exposure conditions.

Method IA Package

Several of the techniques of the Method IA package will be eliminated from the successor of JAN-P-116. The goal of this elimination will be to take this method of packaging truly moisture vaporproof and also to construct a package which will be capable of withstanding the rough handling and cyclic exposure tests required by the present specification. In addition, a number of new materials have been developed for the Method IA package. A study is being made at the present time on asphalt-saturated, cylindrical, fiberboard containers with metal ends as a method IA container. There is a possibility that this type of container may also prove useful as a method II package. It is hoped that this technique — if the study proves successful — will enable us to come up with a high production rate for methods IA and II.

Method II

The moisture vapor barrier material used for the Method II package will have to meet more rigid tests. Under the new specification, there will be only one type of this material. The maximum moisture-vapor transmission rate will be .05 grams per hundred square inches in 24 hours. This was the rate specified for the Type I material in the old specification. Materials which are accepted under the new specification should increase the overall efficiency of the Method II package.

Grade A barrier materials, currently covered by JAN-D-121, have been improved by the raising of the requirements for greaseproofness. This increase was from 300 seconds to 900 seconds and a number of new materials have already been developed to qualify under this grade. I might add that new types of materials are being submitted frequently to the several military testing agencies for acceptance. All these materials are being evaluated to do a job in that seemingly impossible temperature range of from minus 80 degrees to a plus 160 degrees Fahrenheit. This is a real challenge, but I' sure it can be done.

New specifications are being written to cover reusable metal containers for engines, large assemblies, and certain classes of major items. These containers will result in greater protection for the item shipped and in a net monetary savings when the containers are used again.

A great deal has been done with plastics in the field of packaging. The use of a plastic coating in the method "IB" is old stuff now. But one of the newer adaptations for plastics, is the use of polyethylene for containers, as well as for coatings for barrier materials which will withstand low temperatures and other rugged conditions.

Volatile Corrosion Inhibitors

Another material, known as Volatile Corrosion Inhibitor is being studied and tested under specification MIL-P-3420. Several military agencies have developed

packaging instructions for the use of VCI on specific items. Recent information we have received indicates that this new method is doing an effective job. These tests supplement those already conducted by manufacturers. These manufacturers have reported that their findings are favorable for particular applications of this material. As more information is received on this new method of packaging, additional applications will be authorized.

So, to prove to you that with the exception of the material covered by specification MIL-P-3420 there is really nothing new in the most important phase of supply. Let us consider this:

Method O

Method O is used for material which does not require a preservative. The material is packaged for

(Continued on Page 27)

Stretching The Freight Car Supply

In an envelope-size leaflet, of color and typographic design to attract and impress the attention, the Chamber of Commerce of the United States has made a valuable contribution toward efficiency in the use of the nation's supply of freight cars. The message conveyed in the leaflet is reproduced below.

THE PROBLEM

MEETING FREIGHT CAR SHORTAGE

Due to:

1. Unusual heavy military and industrial demands, especially during the fall months.
2. Lack of steel to build cars rapidly enough.
3. Necessity of scrapping wornout cars.

THE SOLUTION

Shippers must:

1. Fully load cars.
2. Promptly load, bill and unload.
3. Load and unload cars six days a week.
4. Not use cars for storage.
5. Clean cars before releasing.
6. Endeavor to load cars to or toward owners' rails.

Carriers must:

1. Spot and pull cars promptly.
2. Speed up terminal and line-haul operations.
3. Distribute car supply efficiently.
4. Avoid accumulation of cars.
5. Repair bad-order cars promptly.
6. Accord maximum 6-day a week service.

KEEP THE CARS ROLLING

Why Better Freight Car Efficiency?

1. It means more available cars.
2. It is the only solution since new cars cannot be built fast enough.
3. Military and civilian goods are of no value unless transported to users.
4. Adequate rail transportation is vital to both a peace-time and wartime economy.

What's In Store If Voluntary Cooperation Doesn't Work?

Freight car shortage.

Additional government car conservation orders.

You've Got to Pack Strongly For Planes Bigger Than Boxcars!

The following article was written especially for Shipping Management by Air Cargo, Inc.

IT WOULD APPEAR that the time has come for the injection of a little more common sense into the generality that shipping by air requires little or no packaging. The airfreight industry has long used as a valid and valuable selling point the fact that shipping by air saves substantially in tare weight thereby further narrowing the margin between the cost by air and that by surface means. As we have said, this has been, and is, a perfectly valid selling point; however, in interpretation it has in some instances become a liability. This has come about largely through the failure of shippers to recognize that less packing and lighter packing can be carried to a dangerous extreme.

Tests that we run periodically confirm that the air haul portion of a through-movement is in fact like riding on a cloud, but three additional factors in this

through-movement must be considered also:

1. Present all-cargo aircraft are now larger than the average boxcar in cubic capacity and can carry a useful payload in excess of 35,000 pounds. Despite the most rigid control and exercise of good judgment in stacking freight within the aircraft, each piece must be self-protected to the extent that it can withstand normal stacking.
2. The transportation at both ends of the air haul is usually accomplished by truck. Here again, despite extreme caution, shipments are subjected to the normal jolts and pressures inherent with truck transportation.
3. Shipments must be handled on and off the aircraft, and in most cases through a terminal or warehouse as well.

Therefore, the fact that the line-haul is by air does not mean unfortunately that its complete journey is within a fleecy cloud.

The air freight industry is now in the midst of ascertaining for its individual carriers what commodities or types of shipments give them the most trouble from damage attributable to packaging. All the answers so far indicate that the greatest contributor is the tendency of shippers to skimp on packing. For example, most carriers included with their list "fabrics in rolls—roll ends insufficiently protected". Here is an instance where we believe common sense is not used, in that every shipper of this commodity from experience within his own plant or shop knows that it is human nature at one time or another to drag these rolls by one end, due to their shape. It would therefore appear obvious that the roll ends particularly should be capped with a sturdy wrapper. Another item is; "liquids in bottles

(Continued on Page 26)

Even if it is going by AIR, not every piece can be stacked on top.



Final Report On The PEI Program:

Preshipment Testing Has Been Standardized

Part II: Effectiveness Of Tests

By R. J. BISBEE
Manager, Quality Control
Westinghouse Electric Corporation
Mansfield, Ohio

The following excerpt is the second of two presented in SHIPPING MANAGEMENT from Mr. Bisbee's speech before the Americans Standards Association on the subject of "Methods of Evaluating Savings From Standardization". The section now presented concludes the report on the National Safe Transit Program, begun in the December, 1951 issue.

THE COORDINATING COMMITTEE then met and decided on the overall program to be carried out by the committee. The responsibility for shipping losses can be placed in three categories; (1) hazards for which the manufacturers are responsible; (2) hazards for which the carriers are responsible; (3) hazards in which both manufacturers and carriers have a joint responsibility.

The technical planning division simply wrote up in specification form the Standard Program that has been proved by Westinghouse Electric Corporation and several other companies. Westinghouse's correlation work on this research problem extended over an 18 year period.

Previous attempts to solve the shipping problem had been based on the "cure" method, that is, the shipping difficulties encountered were analyzed after they happened and then a suitable remedy was devised.

The method worked out and proved over an 18 year period provided a means of "prevention" rather than "cure." It is based on the logical premise that if the packaged unit is tested before shipment, weaknesses in the packing or the product will be disclosed by the tests and can be corrected before losses occur.

Damage during the time the packaged unit leaves the manufacturer's assembly line to its arrival at destination occurs because stresses produced by handling, transportation, loading, and unloading are in excess of what the packing or the product can stand.

We reasoned: "If we can subject a packaged unit,

that is, a unit comprising the finished product and its protecting crate, box or carton, before shipment, to stresses which represent the equivalent of the normal hazards to be expected in the movement of the goods, we can tell from its ability to meet such a test just what can be expected of it, after it is delivered to the carriers."

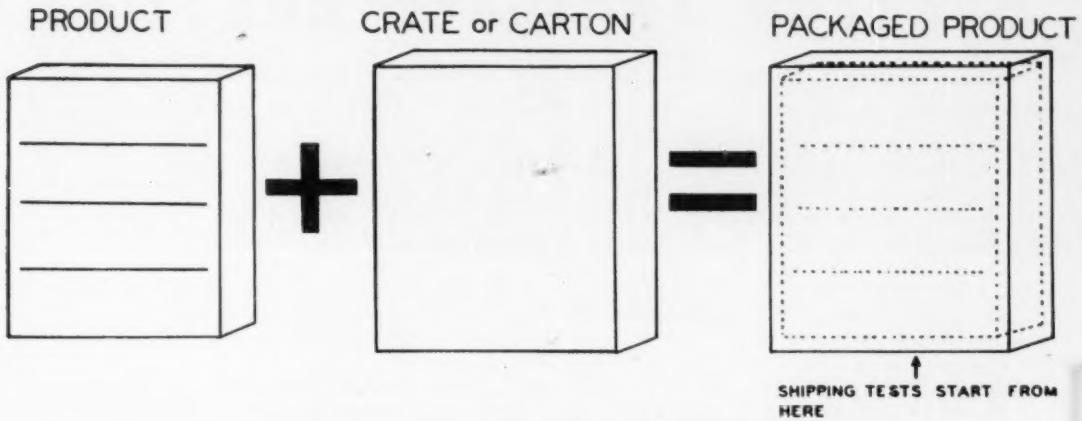
Based on the adaption of work performed by Westinghouse Electric Corporation over a number of years and on examination of the performance records of products shipped under specific procedures, the technical planning division developed two new Safe Transit preshipment tests for national standardization, one for packaged units weighing 100 lbs or more and one for those less than 100 lbs. These were designated as Projects I and I-A. They prescribe the equipment to be used and give detailed instructions for carrying out the tests.

The committee does not tell the manufacturers how to overcome any weaknesses revealed by the tests, nor does it guarantee the tests to provide a remedy for

HOME APPLIANCES



One of several types of stickers used on cartons shipped by manufacturers cooperating with the National Safety Transit Program.



The product in its original containers, case or carton, placed inside the shipping crate, container or carton equals

the completely packaged product, ready for shipping. It is at this point that actual shipping tests begin.

what the tests represent, the committee has formulated the following statement of policy:

"If you will test your packaged products by these test procedures, experience has shown that your loss and damage and your packaging costs will be acceptable minimums. It is up to each shipper to decide whether or not he will use these test procedures. The program is entirely voluntary and implies no connection with tariffs, freight rates, claim procedures or any other existing transit regulations."

Car Loading Practices Manual

Proper loading of cars, it was recognized, was one of the most common causes of shipping damage and as such, was a subject for Safe Transit investigation. A loading research division was organized which carried on extensive research into carloading practices.

From this investigation it prepared a manual on the proper loading of appliances in cars, recently published. This manual will, we believe, prove to be one of the most valuable treatises ever issued on this subject, and will find use not only in our own industry but others as well.

Progress To Date

Although the program has been in actual operation about three years, it has been adopted by many of the largest manufacturers in the industry.

Manufacturers turning out the major volume of goods within our present scope are now members—88 in number or about 70 percent of the total volume of products.

Outstanding laboratories have also been certified so that it is now possible for a manufacturer in any

locality to have his products Safe Transit tested. There are now 18 certified laboratories.

Effectiveness of Safe Transit Tests in Reducing Damage

The Safe Transit Program is wholly predicated on the effectiveness of the test procedures to reduce shipping damage.

Have they? The answer is "Yes." The carriers, the ones most directly affected, have been greatly pleased with the results, and representatives of the Association of American Railroads, the Railway Express Agency and the American Trucking Associations have urged manufacturers of appliances and allied metal products who are experiencing difficulty in getting their merchandise to the dealers without damage to investigate the Safe Transit plan.

Manufacturers who have solved their damage problem through adoption of the plan have been generous in their praise of its effectiveness and have sent the committee testimonials.

An Aid to Quality Control

Although the primary task of the Safe Transit Program is to reduce shipping damage, it has performed another service of tremendous value in showing up packaged unit weaknesses. The tests have enabled manufacturers to improve their product design, to ferret out faulty processing and to improve their quality control. In many reported cases, Safe Transit has helped manufacturers lower their final products cost.

The National Safe Transit Program was established by the porcelain enameling and allied metal industries as a solution to its damage problems. It has not been possible to accede to the numerous requests we have

(Continued on Page 26)

Package Engineer Reporter

SIPMHE National Office Announces New 2 Year Officers

New officers of the Society of Industrial Packaging and Materials Handling Engineers for the period 1951 thru 1953 have been announced by the National Office in Chicago. They are:

Board Chairman, Paul O. Vogt, General Electric Co., Schenectady, N. Y.

Vice Chairman, Ray C. Sell, Koehring Co., Milwaukee, Wis.

President, Stanley Price, Western Electric Co., Chicago, Ill.

Executive Vice President, J. L. Ware, Sears, Roebuck & Co., Chicago, Ill.; Vice President, G. C. Cunningham, North American Aviation, Inc., Los Angeles, Cal.; Vice President, H. E. Brill, Mid-States Container Corp., DeGraff, Ohio (Since resigned); Vice President, I. E. Thomas, Ford Motor Co., Aircraft Engine Div., Chicago Illinois; Treasurer, M. A. Grogel, Fairfield Paper & Container Co.; Chicago, Illinois; Secretary, A. S. Roberts, Insurance Company of North America, Philadelphia, Pa.

Stanley Price who as the Society's National President becomes its principal executive officer has been active in the Packaging and Materials Handling field for twenty-five years. He is a Mechanical Engineering graduate of the University of Iowa.

AMA Packaging Show To Use Two Levels Of A. C. Hall In April

The 21st National Packaging Exposition to be held in Atlantic City from April 1 to 4, inclusive, 1952, will, for the first time in its history, occupy both levels of the huge Atlantic City Auditorium.

The newest developments in machines, equipment, materials and services for packaging, packing and shipping will be shown at the exposition. A significant development in the show, it was emphasized by the Association, will result from a substantial increase in the showing of materials handling equipment. Hitherto, the presentation of such machines—and particularly their active demonstration—was severely limited by floor load factors on the Boardwalk level of the Auditorium. These limitations are removed through use of the lower level, with its virtually unlimited floor load.

In addition, it was stated, plans are now being formulated for demonstrations of special materials handling techniques currently of outstanding importance to industry. Details will be available in the near future.

The Packaging Conference, held in conjunction with the exposition, will take place at the Atlantic City

Auditorium from April 1 to 3. There will be morning and afternoon sessions on the first two days, and one morning session on the third day.

Eastern Division Enjoys Christmas Party

"Nothing serious" was the agenda for the entire meeting of the Eastern Division, Society of Industrial Packaging and Materials Handling Engineers at their December meeting. The occasion was the annual Christmas Party.

About 75 attended which made for one of the largest turn-outs the Division has had and the most successful of its lighter affairs. Dinner entertainment and distribution of door prizes was at the Brass Rail Restaurant in Mid-town New York.

Philly Div. Hear R. F. Weber On MH Progress

At one of the best attended meetings of Philadelphia Packaging Engineers late in November, R. Frank Weber, general supervisor, Materials Handling Research of the International Harvester Company, Chicago, Illinois, and chairman of the board of the Society of Industrial Packaging and Materials Handling Engineers, said that the cost of shipping for his company exceeds \$5,000,000 per year. This includes no labor costs Mr. Weber said, and covers the cost of packaging, packing, materials handling and freight costs. When broken down into individual costs, that for packaging and packing equals the cost of materials handling whereas loading costs figure about 18% of the total.

With the use of lantern slides, Mr. Weber discussed the subject from four general points with particular reference to materials handling history in his company, the research for information on proper packaging and materials handling procedure, the development of a plan for handling matters of packaging and materials handling and a summary of the results of the program. Borrowing from the experience of other organizations, he said that the first step was to visit laboratories and other facilities of well-known companies who had studied packing, shipping and materials handling problems. The organization of his department, he said, began in one small plant about fifteen years ago although Harvester had been giving thought to the problem twenty-five years ago.

In Mr. Weber's department, which does research and development work for the benefit of the entire Harvester Corporation in the matter of packaging,

(Continued on Page 31)



Left: — in this oil industry store in Odessa, Texas, The National Supply Company keeps all possible items on pallets which are tiered either from the floor or in steel racks with shelves up to 11 ft. above floor level. A single 4000-lb. fork truck is used in this distribution center.



Right: — in a former trolley car barn every bit of available storage space is used by Narragansett Brewing Co., Cranston, R. I. This fork truck of nearly three tons capacity raises palletized cases and barrels as high as 18 feet. Total height of six pallet loads is more than 20 feet. Pallets carry 105 cases of 32-oz. bottles or 168 cases of 12-oz. cans.



Left: — High-lift fork trucks permitted construction of a mezzanine storage area over an active storage area at Cross Cotton Mills Co., Marion, N. C. The space is used for cartons and supplies that are in continual use nearby.

Right: — wire basket-pallets and fork trucks of 3000 lb. capacity and 10-ft. lift solved the handling and storage problem at Beattie Manufacturing Company, Little Falls, N. J. Basket-pallets are stacked five high, thus materially reducing the number of square footage required for storage.

How To Save Storage Space With Industrial Trucks

This report is based on data compiled by the Industrial Truck Association.

HOW TO INCREASE PLANT capacity without increasing floor area has been a problem frequently faced by manufacturers and warehouse operators. Usually the best solution is expansion vertically, using more of the vacant overhead space under existing ceilings. Since this space is out of practical reach of workmen without powered mechanical aid, solution of the problem is apparently the selection of efficient mechanized handling and accessory equipment to permit stacking materials in convenient accessible units.

On the basis of wide experience, utilization of this space has been made highly efficient by means of industrial truck handling methods. In almost every instance where powered industrial truck methods of handling, and "stackable" unit loads have been adopted, one of the several advantageous results obtained has been an increase in plant capacity.

Industrial truck handling methods increase plant capacity in two ways. One is by eliminating congestion which reduces the efficiency of skilled workmen on plant production lines when work does not arrive on schedule, or by preventing delays in deliveries of merchandise from storage warehouses. The rate of throughput is thus increased.

The other way is by increasing storage capacity on a given floor area by projecting stored materials upward. Materials may be handled and stored more

efficiently by industrial trucks in as small quantities and for as short a time as between operations on a production line; or in as large quantities and for as long a time as may be necessary in a wholesale merchandising company warehouse.

Space saving is important in every industry. In the wide variety of industrial and distribution handling problems that are illustrated here, mobile handling equipment has brought about the desired increase in plant capacity and has postponed the need for expanding the floor area for plant production or warehousing operations. This method of space conservation has proved itself so thoroughly in existing warehouses that new storage areas are commonly being designed especially for the fork-truck-pallet system with high-tiered unit loads. Modern design takes into account mainly such factors as floor capacity, practicable tiering heights, and storage area layouts, but also methods of forming unit loads. Suitable unit loads of a standard uniform size and stability are necessary in order to realize fully the desired benefits. In some instances new and efficient warehouses replace inefficient structures.

Many plants have greater capacities without enlarged quarters than when they were built because of more efficient production machinery and the modernization of handling with mobilized power equipment.

(Continued on Page 29)

GOVERNMENT
▼
PERSONALITIES

★ NEWS REVIEW ★

A digest of recent activities in the
packing and shipping field

ASSOCIATIONS
▼
COMPANIES

HUDSON OPENS NEW PALATKA MILL WITH COUNTY-WIDE FETE

The second unit of Hudson Pulp & Paper corporation's kraft mill in Palatka, La., a \$10,000,000 addition that will double the plant's capacity and permit broad flexibility in output—was dedicated today by Florida's Governor Fuller Warren.

Stringing Hudson's total capital investment here to more than \$22,000,000 the new plant will boost total daily production to 400 tons of finished, unbleached kraft, about 85 per cent of which will be converted in the fully-integrated plant to Kraft wrapping, butchers paper, gummed sealing tape, grocery bags and sacks and multi-walled bags for industrial products.



Incorporating virtually every modern improvement in paper-making equipment, the new facilities will enable Hudson to produce kraft paper in every weight from 20 to 90 pounds, according to William Mazer, executive vice president.

"More important, however," he said, "is the fact that with these two machines in operation we have much greater flexibility and efficiency than before. The new machine permits our original equipment to operate on products for which it is best suited with consequent higher output, less 'down time', fewer breaks and change-overs and better all-round utilization of equipment. The new unit will be used mainly for production of light-weight papers; the existing system will continue to manufacture heavy-weight grades."

PLANT MAINTENANCE SHOW SLATED FOR PHILLY. JAN. 14-17

More than 6,000 machines and products useful in various aspects of industrial maintenance, will be on exhibit at the Plant Maintenance Show, which will be held at Convention Hall, Philadelphia, Jan. 14-17, 1952.

Most of the machines and products will be shown in demonstrations of actual use to provide executives with opportunities for comparisons, it was stated. A large number of the exhibits will be aids to maintenance which are being introduced to industry for the first time.

Fourteen thousand executives from all

parts of the country are expected to attend. Advance registrations indicate that more than 30 foreign countries will be represented among the visitors.

Concurrently with the show, a Conference on Plant Maintenance will be conducted with 57 industrial leaders drawn from many of the nation's outstanding companies as participants. Manly Fleischmann, administrator, Defense Production Administration, will discuss "Plant Maintenance in National Defense" at the annual banquet.

H. L. FREEMAN APPOINTED PACKAGING ENGINEER FOR JEROME F. GOULD

Announcement was made today by the Jerome F. Gould Corporation, Export Packers, of the appointment of Harold L. Freeman as Packaging Engineer.

Mr. Freeman, since 1945, has been Packaging Technician with the U. S. Army Signal Corps Packaging Unit in Philadelphia, Pennsylvania.

With the Jerome F. Gould Corporation, Mr. Freeman's prime function will be the administration of upwards of one and one half million dollars worth of Government packaging and packing contracts.

DR. J. O. HENDRICKS BECOMES ASS. DIRECTOR CENTRAL RESEARCH, 3M'S

Promotion of Dr. J. O. Hendricks to the newly-created post of association director of the Minnesota Mining & Manufacturing Co. central research laboratories was announced today by Dr. H. N. Stephens, central research director.

Stephens also named Dr. Matthew W. Miller and Dr. H. M. Scholberg assistant directors.

Hendricks joined 3M in 1936 after receiving his doctorate at the University of Illinois. He became head of the firm's organic chemistry section in 1942 and a year later took charge of the colloid section.

He was an assistant director of the central research laboratories since 1947.

Miller also received his doctorate at Illinois. He was in the army from 1942 to 1946 and after the war did scientific investigation work in Germany for the War Department.

In 1947 he succeeded Hendricks as head of the organic section.

G. WALTER OSTRAND ELECTED PRES. CONVEYOR EQUIP. MFRS. ASSOC.

G. Walter Ostrand, general manager, Caldwell Plant, Link-Belt Company, was elected president of the Conveyor Equipment Manufacturers Association at the association's annual meeting at The Homestead, Hot Springs, Va., October 30. He succeeds L. B. Mc-

Knight, executive vice president, Chain Belt Company, Milwaukee.

R. C. Sollenberger, who has been the staff head of the association since 1945, was re-elected executive vice president. Other officers are: Harry C. Davis, general manager and chairman of the board, Kanawha Manufacturing Company, Charleston, West Virginia, vice president; R. F. Tomlinson, general sales manager, A. B. Farquhar Company, York Pa., treasurer; and Lee Sekulski, sales manager, Mathews Conveyer Company, Ellwood City, Pa., secretary for a second term.

The following were elected to the executive committee: J. A. Jeffrey, vice president, Jeffrey Manufacturing Company, Columbus, Ohio; J. E. McBride, vice president, Palmer-Bee Company, Detroit, Michigan, and Mr. McKnight.

Personal participation in association activities to help advance common interests was stressed by Mr. McKnight in his presidential address before 56 representatives of the country's principal conveyor manufacturing companies.

"As businessmen we have civic responsibilities that cannot be discharged merely by making financial contributions to the organizations in which we are interested," he said. "Government administrators and our legislators need and want practical guidance particularly on defense production problems."

GAIR OLD TIMERS ASSOCIATION HONORS MEMBERS

The nineteenth annual banquet of the Gair Old Timers Association was held on October 20 at the Hotel New Yorker with over sixty members present to enjoy a good fellowship meeting.



FRED STOCKER

This group meets annually to perpetuate the friendships which grew out of work-a-day associations of present and former employees of Robert Gair Company, Inc., manufacturers of folding cartons, paperboard and shipping containers.

New officers of the association elected are: Honorary President—John Paxson
(Continued on Page 25)

Change From Hand-Made Crates To Wirebound Eliminates Dust, Waste, Reduces Packing Time



Small steel plates slipped over the wheel rims of the Model 350-A dry chemical fire extinguisher and bolted to the base of the wirebound crate will prevent the unit from shifting during export shipment. The small crate shown strapped to the unit contains accessories. This unit will be practically ready for operation when it is uncrated. It weighs 669 pounds and is being packed in a wirebound crate that weighs only 175 pounds.

By REUBEN STROM
Shipping Room Foreman
Ansul Chemical Co.

THE SHIPPING ROOM of the Ansul Chemical Co. factory at Marinette, Wis., is undoubtedly one of the most efficient departments of our company since we put our packing-for-export on a scientific basis.

Until about two years ago, we made our own nailed wooden crates, buying and cutting our own lumber and nailing the containers together. The noise was distracting, the dust was annoying, the work was cumbersome and slow, and, we know now, the operation was costly.

Our computations show that it required 210 man-minutes to crate a Model 150-A Ansul wheeled dry chemical fire extinguisher for export and 240 man-minutes for the larger Model 350-A.

About two years ago, however, we converted from this method of crating to the use of prefabricated wire-bound crates that are shipped to us unassembled and flat so that they can be high-stacked in a minimum of floor space and with a supply always at hand.

The result in the shipping room has been the elimination of the irritating noise, dust, and waste that were always attendant when we made crates, a drastic reduction in man-minutes required for packing, improved worker morale, and generally all-around improved working conditions.

By adopting wirebound crates in place of those we made ourselves, we have simplified our shipping room

operations to a degree never before thought possible.

Our inventory of unassembled crates are kept convenient to the packing area with crate bases, crate tops, prefabricated special interior packing, and the one-piece wirebound wrap-around "mats," each containing four crate sides, stacked separately.

Packers need only place a heavy crate base on the floor; wheel an extinguisher into position upon it and secure it by placing a small steel plate over the rim and bolting it to the crate base; folding the "mat" into shape and placing it into position; slipping the special interior packing into position through the open crate top, and then placing and securing the crate top. A minimum of nailing is required to join the "mat" to the crate base, top, and interior packing.

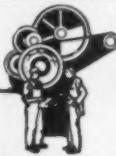
The 60 man-minutes required to pack a Model 150-A wheeled dry chemical fire extinguisher and the 90 required to pack the larger Model 350-A compare with the 210 and 240 man-minutes, respectively, that formerly were required.

The finished packages ship out at 487 and 844 pounds, respectively, as compared to 693 and 1171 pounds before, thanks to the reductions in container tare weights from 306 and 502 pounds to 100 and 175 pounds, or 67% and 65%.

Of maximum importance is the fact that shipping

(Continued on Page 34)

NEW PRODUCTS & LITERATURE



STRING-FILLED TAPE CUTTER

Complete tests over an extended period of time have proved that the Ideal Clip-A-Tape will automatically moisten, measure, and cut cloth, reinforced, string-filled tapes as quickly and as efficiently as regular kraft tapes, and without any special attachments.



In referring to this heavy duty performance of the machine, the manufacturer points out the self-sharpening knife which cuts with a new positive shear action that always works cleanly, never tears.

Engineered throughout for years of tough service, the tape machine is constructed throughout of stainless steel and aluminum. No rust or corrosion problems.

No problems either with skip-moistening, over-wetting, or clogging. The non-skip feed mechanism operates on a new spring-free principle . . . eliminates old-fashioned readjustments caused by weakened spring tensions.

MH PROBLEM BOOKLET

Much of the mystery of analyzing materials handling problems can be removed by answering just 28 simple questions.

To back up that statement, the "Materials Handling Analysis Guide" has just been published by the Automatic Transportation Company, Chicago, world's largest exclusive manufacturer of electric industrial trucks, it was announced today.

The 16-page pocket-size booklet was prepared to assist the thousands of factories and warehouses where no full-time materials handling engineer is on the staff. The guide affords a method of determining rapidly basic materials handling requirements of a business.

Subjects the questions deal with include the relationship of materials handling to production, costs, shipping, and packing. Included is a simple "score-keeping" system that determines if a firm needs further help in investigating ways to eliminate its problems.

CLAMP TRUCK BULLETIN

Food Machinery Corporation, Packing Equipment Division, has just released a new 8 page bulletin picturing and describing its complete line of clamp trucks. FMC clamp trucks are widely used in warehouses and factories for the moving of boxes, crates, baskets and lugs. The several models in the line, designed for various industrial applications, all operate on the same basic principle. A foot pedal operates the clamp arms which grip the containers,



enabling the operator to move them from one place to another with a minimum of time and effort. The bulletin pictures various ways in which FMC Clamp Trucks may be used to facilitate material handling; gives construction details, and pictures other types of hand trucks designed for handling of empty boxes.

STANDARDIZATION BOOKLET

Specific savings and production benefits directly attributed to standardization in American industry are cited in "Dollar Savings Through Standards," a presentation of 140 documented case history

A record of this type, according to

Literature and prices of products mentioned can be obtained if you drop a post card to News Editor, SHIPPING MANAGEMENT, 425 Fourth Ave., New York 16, N. Y.

Companies having new product stories should send them to the same address.

studies now made available by the American Standards Association.

The 32-page book is a printing of a report called "Survey to Obtain Data to Show Savings Derived from the Use of Standards by American Industry." It was prepared for the Economic Cooperation Administration, by the American Standards Association, to encourage European manufacturers to adopt U.S. production methods in order to speed military preparedness and to strengthen economic self-dependence. The report is being released in this country by the ASA as a service to American industry.

LIFT TRUCK SAFETY POSTERS

Because of the success of a plant safety program being promoted by Towmotor Corporation, manufacturer of fork-lift trucks and tractors, Towmotor's popular "Plant Safety Kit," containing useful literature emphasizing safety in the use of materials handling equipment, has been augmented by the addition of four new safety cartoons designed for use as bulletin board posters.



The Plant Safety Kit, which has been distributed widely to industry, consists of "traffic markers," safety instructions for operators, and humorously illustrated bulletin board "safety tips". The four posters just released, which feature basic safety fundamentals in power truck use, make a total of eight cartoon posters issued to date.

The four new "safety tips" posters are available to all manufacturers without charge on request.

PACKAGE TEST RECORDER

The clinical history of a package subjected to shock and vibration tests can now be recorded immediately and permanently at the Packaging Development Branch of the Engineer Research and Development Laboratories, Fort Belvoir, Virginia.

An electronic device, designed and built to ERDL specifications by Reed Research, Inc., provides this record. Previous methods, while indicating the information required did not make it at once available and permanent.

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D. R. Dominie's "LISTEN, Mr. Traffic Manager"

WHAT EFFECT the recent Parcel Post rate and limit changes will have on the national transportation picture will probably not be determined for at least two or three more months. During this period most concerns will go through a stage of experimentation in an effort to determine the cheapest method of distribution from both transportation cost and an interplant cost comparison.

There is no question but what the changes for parcels over 40# to zones one and two and over 20# to zones three to eight will be greater after January 1st regardless of what method of transportation is used.

By and large the immediate alternatives will be between the use of Railway Express and Parcel Post. The use of Parcel Post would of course involve breaking the shipment down into two or more pieces so that that each would be under the weight limit.

The actual transportation cost as such via Railway Express will be more expensive. However, consideration, as we have stated before, should be given to the added costs when breaking down a shipment for parcel post. Obviously we would have an additional labor cost as well as a slight increase in packing materials. Any comparison would include the latter.

If a brief summary had to be made without careful consideration of all factors, it might be stated that parcel post in most instances would be the cheaper of the two but only by a small margin. In the event that this is true, then service should be considered a definite factor. Service should include speed of delivery, care in handling, tracing and claims.

At present, Railway Express gives slightly better delivery and handling service. However, with a possible increase in their business and a decrease in parcel post this situation may change. We would look for a definite improvement in parcel post handling because so many heavy packages would be eliminated from the postal chutes. We would guess, however, that Railway would maintain their service.

Tracers and claims are handled much easier and quicker by parcel post than by Railway Express. Any concern doing a large volume of business which is susceptible to loss, pilferage or breakage should consider this an important factor. Time and funds tied up in claim procedures can be expensive. Our experience has shown that parcel post claims and tracers

are accomplished with the minimum of confusion and time while Railway Express has an extremely poor tracer and claim system.

Not to be discounted in this change-over period is the bid that some of the airlines are making to get into this "small parcel" business. Actually their system is to consolidate shipments from one shipper to a particular city and assess a rate on the basis of total poundage. This charge is then pro-rated per piece or per shipment. Shipments are consigned on one air-way bill to the postmaster of destination post office from whence they are distributed via parcel post. The shipper first, however, must pre-stamp the local or zone 1 and 2 postage on his pieces before shipping.

This, in effect, accomplishes two things. First, it eliminates the 20# pp weight limit as parcels are distributed within the destination cities local or 1 and 2 limits. Secondly, it speeds up the shipments considerably.

Surprisingly enough the cost per shipment is just slightly higher than by Parcel Post and is cheaper than by Railway Express.

There is no question but what it would pay shippers to investigate the airlines proposals for distribution via this method. However, before calling in an airline representative shippers should first compile figures showing the average weight per piece. With this in hand the airlines can figure the cost as against that of pp or railway express for a rapid comparison.

The following chart depicts, in our opinion, the comparative merits of the three carriers under discussion. Ratings are compiled on the basis of 100 points for the best in each category and comparative assigned points for the remaining two.



Bear in mind that this chart is our opinion only and certainly can be subject to change after we have had time to observe the new regulations in operation. We will in a few months draw up a more detailed and more scientifically compiled chart.

U. S. Navy Forecasts Big Packaging Demand

Defense packaging is currently estimated at six percent of total expenditures, according to information carried in the August, 1951, issue of the Bulletin Board, published by the office of Naval Material, Department of the Navy. The Bulletin Board states that under full mobilization more than 50 percent of the

(Continued on Page 31)

MARK THESE WORDS WELL...

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EVERY ADDRESS
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addressing equipment



IDEAL STENCIL MACHINE

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Shifts like a typewriter. Automatic carriage return and line spacer. Visible cutting. Minimum Margin Grip saves 25% on stencil board.



HANDY ANGLE FOUNTAIN STENCIL BRUSH

Natural grip for easy wrist-action brushing. Push-button control. One-piece construction, leakproof.



LM 5 FELT TIP MARKER

Larger-capacity, leak-proof construction. Replaceable tips.

FREE! "IDEAL SHIPPING GUIDE"

Handy, money-saving shipping room hints.

IDEAL
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108 Iowa Ave. Belleville, Ill.

TRAFFIC REPORTER

Don Clark, Head Line Coach at U.S.C. spoke at the December 10th meeting of The Los Angeles Transportation Club, Inc. in the Continental Room of the Alexandria Hotel.

Members of The Women's Traffic Club of New York donated Christmas gifts to the Walter Scott Foundation for the Aid of Crippled Children, Inc. and the Isabelle Home for the Aged at their Annual Christmas dinner meeting in December.

Members of the class in Air Freight of the Academy of Advanced Traffic journeyed to Newark Airport to inspect the latest field installations of the major airlines concerned with the carriage of cargo by air. The group was taken on a tour of inspection by executives of American, Slick and Capital Airlines. Officials demonstrated modern methods of receiving, loading and expediting air freight. Of particular interest were the mechanical features introduced by the airlines.

The Transportation Club of Decatur, Illinois elected the following Officers for the Year 1952 at its December Buffet Dinner Meeting:

President, J. Huber Lipe
Vice Presidents, H. L. Bechtel,
G. N. Lovell, N. A. Smith
Secretary, W. M. Chapman
Assistant Secretary, I. Arthur Hirsh
Treasurer, H. L. Kline

The Nassau-Suffolk (Long Island, N.Y.), Traffic Club held Freight Forwarders Night at the Trott Inn on November 11, 1951. Mr. Al Wennberg, of the Western Carloading Company, was chairman of entertainment for the evening.

Kenneth S. Carberry, Secretary of the Newark (N.J.) Chamber of Commerce, and newly installed President of The Traffic Club of Newark has announced that the first meeting of his administration will be devoted to an "Old Fashioned Gripe Nite" when all members who might desire to do so may gripe about anything pertaining to the Club and its functions and then enjoy a social hour afterwards.

New Products

(Continued from Page 22)

James A. Sargeant, ERDL, Chief, Packaging Development Laboratory, will be of great value in determining exact source and cause of damage occurring to a packaged article during transit and just how much and how long a package will protect its contents.

Another feature of the recorder, which embodies the best of many previous systems, is the 14 channel magnetic head. This permits recording of the activity in as many as 14 strategic parts of the package.

Accelerometers Used

Accelerometers distributed throughout the test package indicate the frequency of vibration at various points. The signal is amplified, fed through the channel head and recorded on magnetic tape. Up to 14 channels may be recorded simultaneously at 60" per second on one width of tape.

The tape is played back at 6" per second into a magnetic compax recorder which by means of electric writing style produces a permanent black line record on electrically conductive chart paper. By analyzing the wave forms traced by the stylus, the shock, vibration, and accelerations inside the package at different stages of the test may be determined. Thus the effectiveness of cushioning and packaging may be accurately gauged.

The lower speed of the play back overcomes the mechanical difficulties encountered in attempting a direct transcription to paper of signals in the high frequency range.

The new device designed to produce an accurate record of amplitudes and frequencies of shock and vibrations from 2 to 500 cycles per second and accelerations up to 80g's, will be used in all shock and vibration tests at the Packaging Development Laboratory. Later it will be employed in tests of parachute and free fall packs released from airplanes. In this instance telemetering equipment will transmit the signal from the sensing devices to the recorder. The recorder will record up to 6 minutes and has a maximum playback time of 1 hour.

IMPROVED DESICCANT

An improved silica gel packaging desiccant, which under certain conditions will take up as much as 20 per cent more moisture from the atmosphere than the older form, is announced by The Davison Chemical Corporation. The product is designed to provide safer storage and packaging protection for the nation's mounting output of war materials.

The new product bears the name of "Protek-Sorb 121." It will be used under the new military packaging desiccant specification, MIL-D-3464, which

(Continued on Page 33)

News Review

(Continued from Page 20)

(1913 to 1932), Gair Realty Company of Brooklyn, N. Y.; President—Fred Stocker (1912-1921), President of Stocker Manufacturing Company of Netcong, N. J.; Vice President—Edwin J. Bawell (1923 to date), Connecticut Corrugated division of Robert Gair Company, Inc., Portland, Conn.; and re-election for his seventh term, Secretary and Treasurer, John A. Coakley (1910 to date), Eastern States Carton division, Robert Gair Company, Inc., Brooklyn, N. Y. Dates given indicate time of employment at Gair.

Retiring President Theodore E. Kamish (1913 to date) of the Bogota, N. J. division of Robert Gair Company, Inc., acted as chairman, conducted the election, and thanked the members for their splendid cooperation. After the dinner, an hour of entertainment followed.

ACME STEEL'S RACINE PLANT WINS NATIONAL SAFETY AWARD

• Acme Steel Company's Hoffert Machine Division at Racine, Wis., won a first prize award at the National Safety Congress in Chicago, October 10th with a perfect safety record for the second consecutive year.

General Manager Roy Hoffert accepted the plaque from Edward G. Metzel, assistant superintendent of safety, U. S. Steel Corporation. Award was won in Group C, Light Machinery Division of the Metal Section for no lost-time accidents from July 1, 1950 to June 30, 1951. The Hoffert Division manufactures wire stitching machines.

Average accident frequency rate in this category was 10.09 accidents per million man hours worked, compared with the 0.0 record for Acme Steel. Other firms in Group C to be cited were Western Electric Company, Westinghouse Corporation, Du Pont Laboratories and Martindale Electric Company. 785 firms across the country competed for awards in all divisions of the contest.

9,824 NEW FREIGHT CARS DELIVERED IN NOVEMBER

Freight car builders maintained their high level of production in November by delivering 9,824 new freight cars, the American Railway Car Institute and the Association of American Railroads announced jointly today.

This represents an increased production of more than 4,000 new cars above the month of November, 1950, when production totaled 5,791. Freight car production for the month of October was 10,082.

The Institute and the A.A.R. also reported that 6,752 new freight cars were ordered in November and that the backlog of cars on order as of December 1 was 129,158.

INTERCITY FREIGHT TRUCK TONNAGE DECREASES SLIGHTLY IN 3RD QUARTER

The volume of intercity freight tonnage transported by trucks in the third quarter of 1951 was 1.8 percent below

that moved in the same period in 1950 but 25 percent above the third quarter of 1949.

This decline, the first third quarter decline since 1945, was in sharp contrast to the third quarter last year when intercity truck tonnage was 28 percent above the same period of 1949 and in the first two quarters of 1951 when tonnage was 25 and 10 percent above the first and second quarters of 1950, respectively.

The ATA third quarter index, with the third quarter of 1941 as 100, dropped off to 217 from an index of 221 in last year's third quarter.

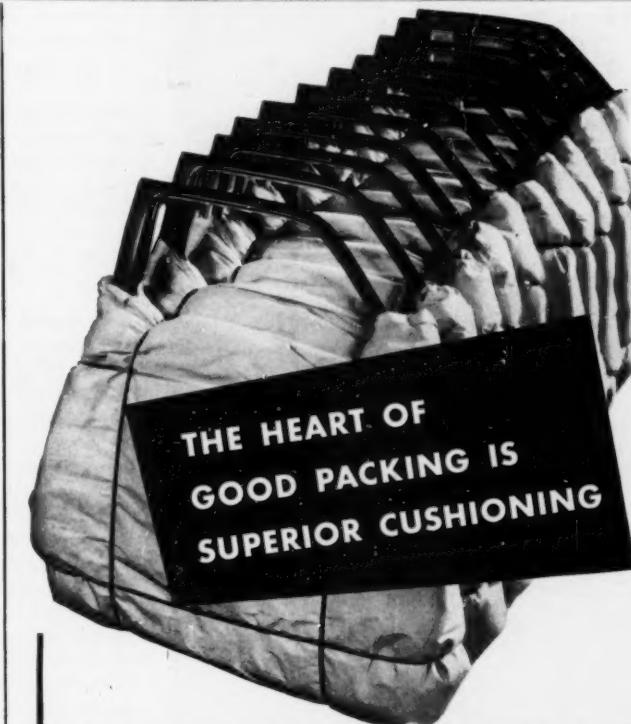
The index is based on analysis by the ATA Research Department of reports

from 1318 Class I Intercity carriers which moved 43,634,745 tons of intercity freight in the third quarter of 1951 as compared to 44,427,409 tons in the same period of 1950.

FIVE HUNDRED TRIPLE HOPPER CARS ORDERED BY KATTY RR

Donald V. Fraser, president of the Missouri-Kansas-Texas Lines, has announced that order was recently placed for five hundred 70-ton triple hopper cars, which will be delivered in mid-1952.

Order was placed with the Pressed Steel Car Company, and the cars will be constructed at that company's plant at Mount Vernon, Illinois.



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Preshipment Testing

(Continued from Page 17)

received from other industries for help in adapting the procedures to the solution of their difficulties.

We have given them our procedures, descriptive literature and such aid as we could but the task of taking care of our own industry has precluded the possibility of placing additional responsibility and burden on the committee.

The Safe Transit method, however, will be expanded. This was agreed to at our last Executive Committee meeting held in Cincinnati, Ohio, September 6, 1951.

What we have done in reality is to point out a way to solve the damage problem that can be used by all industries.

Our expansion will probably cover such commodities as television, radio, glassware, furniture and several other allied commodities. A final decision will be made at our next National Safe Transit Policy Committee meeting in November.

From a talk presented at the ASA Company Member Conference held During the Second National Standardization Conference of the American Standards Association, The Waldorf-Astoria, New York.

Packing For Planes

(Continued from Page 15)

—insufficient (or no) packing between units or between outer units and prime container". Still another is; "overloading of fibre containers—200 and 300 pounds placed in carton stressed for $\frac{1}{3}$ that amount—no strapping".

These complaints we know are not limited to air transportation, but we know air transportation accentuates the use of lighter packing and perhaps gets a greater share of really insufficient packing than other media. The question, of course, in our minds is why do shippers further skimp on packaging when they have already reduced the weight of the basic container to its minimum by using paper, fibre cartons, etc. If we are talking of saving shipping weight, what in these particular instances are we talking about—dollars or cents? To alleviate the condition causing the troubles listed above would represent in most cases not more than a pound of extra tare weight. To give this factor some perspective, perhaps we should note here that the general commodity airfreight tariff rate, for example between New York and Chicago, is as little as 6½ cents per pound. Skimping on packing in these instances represents a savings of perhaps 6 cents in shipping weight, but at what exposure to substantial losses through damage and ill-will of the buyer!

What we are trying to say is; (1) yes, you can package your goods lighter for shipment by air, but; (2) this does not mean that by so doing you may completely eliminate reasonable shipment protection, and; (3) we don't believe you have stopped to think that an air shipment also must be handled, trucked and

stacked, and failure to use common sense in packaging can tip the savings scales in the wrong direction, so; (4) if you will but exercise normal good judgment, you may still use a lighter shipping container than is possible for movement by any other form of transportation with more than reasonable assurance that it will arrive at its destination quickly and in perfect condition.

But please be realistic—you know that the fleeciest cumulus cloud on which your shipment will travel contains some pressures and some bumps. Give the airlines a fighting chance to do a good job for you.

Military Packaging

(Continued from Page 14)

mechanical protection only. There has been absolutely no change made in this method.

Method I

Under Method I, protection of the article is dependent upon a heavy duty corrosion preventive. The article may or may not require depreservation prior to being placed in service. Certain types of corrosion preventive require no over-wrap to prevent the preservative from migrating from the article which it covers. In the event an overwrap is required, the wrapping material is usually Grade A barrier material, which is covered by specification JAN-B-121.

The Method IA package is accomplished in several ways. The process may be referred to as "Canning" the article in one of several barrier materials which will provide a very low moisture-vapor transmission. While on the subject, I might mention that regardless of the technique used to accomplish a Method IA package, that package must withstand the rough handling and cyclic exposure tests required in specification JAN-P-116. This specification is being re-written as a MIL specification and will eliminate several of the versions of method IA which obviously do not give the protection required under this method.

Method IB

Two types of material are used in accomplishing method IB: namely, Ethyl Cellulose, and Cellulose-Acetate-Butyrate. Method IB is actually a modified version of method IA packaging whereby the barrier material incorporates the preservative medium. It has been used to quite some extent since its entrance into the packaging field in the early nineteen-forties. This method has some disadvantages in that most of its application is accomplished by the slow hand-dipping process, and that it is unable to withstand extreme temperature changes. During World War II, I saw, right here in Cleveland, a very practical "Rube Goldberg" doing a splendid job of semi-automatic dipping on some parts. I think we can look forward to advances in the methods of application of the IB materiel, which will serve to overcome, or at least minimize, the present time disadvantage connected with this method. Furthermore, I have heard that one manufacturer is developing a material which will be able

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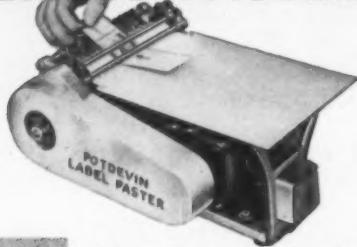
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to withstand the unbelievably low temperature of less than minus 100 degrees Fahrenheit.

Method II is the so-called desiccated package which is prescribed when a high degree of protection is required. The article is packaged within a moisture-vapor barrier, usually without the benefit of a corrosion preventive. Included within the package is a desiccant to reduce the moisture content of the inclosed within the barrier, and further, to adsorb any moisture which may enter the package through the barrier material.

Every one of the basic methods of packaging — Methods I, IA, and II, together with Method IB, the offspring of Method IA — has remained basically the same as it was first set up. There has been no change because those methods proved their effectiveness in actual use. By using these methods, we were able, and are able at the present time, to accomplish our packaging mission of supplying materiel in a serviceable condition wherever and whenever it is needed.

Perhaps too many words have been spent at various times in praise of the "know-how" of American manufacturers. However, they are deserving of this praise, for we must recognize our debt to those manufacturers. They have cooperated — and are cooperating — to the fullest possible extent in the development of improved packaging materials and techniques.

At the present time, as you well know, the project of unification of the Armed Forces is in full swing. One of the awesome tasks facing us is the conversion for re-issue of all specifications to specifications bearing a MIL designation. The new techniques in packaging and the gradual adoption of MIL specifications by all branches of the Armed Forces represent a unified thinking which will decrease the number of conflicting packaging requirements presently in effect.

In the beginning, I made the statement that there is actually nothing new in packaging. But we believe that although the materials and methods we have used have done a wonderful job, much can be done to get added protection at less cost. We realize that too little time and effort has been spent in developing new materials and methods, taking into consideration the basic difference between military and commercial storage problems. In this regard, I refer to the long-term protection required by the military as opposed to the limited shelf-life requirements of our commercial counterpart. At the present time we are doing much research and expect to do more in this direction. We anticipate that as new materials and methods are developed and proved by tests, there will be many changes.

In the future, we will strive to do an even better job than we have done in the past, for we realize that, even as the packaging process consists of a series of links in a chain, by the same token, packaging is one link in the great chain of activities which will bring about a lasting peace with a minimum expenditure of manpower.

(A talk delivered at the Packaging and Materials Handling Short Courses conducted jointly by Case Institute of Technology and the Society of Industrial Packaging and Materials Handling Engineers in Cleveland Public Auditorium October 1-4, 1951.)

Saving Storage Space

(Continued from Page 19)

Modern handling and storage methods reduce all three of the major cost factors: investment in building and fixtures, handling costs, and accounting costs. Investment is reduced because a maximum of the available storage space can be utilized. This can be done with a minimum space required for accessibility to stored material. Handling costs are lowered because of the increased speed of moving materials into and out of storage areas, the high load capacity of powered trucks, and the increased capacity per man. One of the factors in low accounting costs is the possibility of taking inventory of stock in larger units. In merchandise warehouses less clerical work is also necessary in filling and placing orders, and there are savings in planning and storage control.

All of these factors mean that the more intensively the capacity of a warehouse is used, the lower the unit costs for fixed storage expense. The smaller the investment in fixtures, the greater the flexibility in a storage area and the smaller the cost of changes needed to maintain maximum capacity.

In any storage area a first consideration in the layout of space must be the activity of the goods. Articles that move daily or that are stored only a short time should obviously be stored nearer the exits to points of use or distribution than articles that remain longer in storage.

The quantity of any commodity naturally determines the space needed to store it. Extremes in size, weight, or shape must also be considered in laying out space efficiently. Large, awkward and unusually heavy containers should be stored near exit doors. Containers that are difficult to handle should be moved no farther than necessary. The characteristics of the material often supersedes other considerations. Inflammables are sometimes stored in special warehouses and are always segregated and placed where hazards are least. Valuables are stored in vaults and certain foods in cold storage.

There are a few rules to observe in preparing the best location of merchandise in relation to the physical characteristics of a building:

1. Incoming and outgoing activities should be separated if possible.
2. Layout of traffic aisles should be determined in relation to doors. In planning new construction the two may be considered together.
3. Pillars or posts must also be considered with regard to aisle locations.
4. Floor-load capacities must be observed.
5. Aisle width should be determined in relation to merchandise handling requirements, speed of truck movements, and safety to personnel. One-way traffic is recommended for all except main aisles.

(Please Turn Page)

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6. Lighting facilities may have to be rearranged.
7. Local fire prevention rules control placement of fire fighting equipment and storage standards.
8. Movement of large quantities of goods, such as car lots, should be made possible without traffic congestion.
9. Storage racks may be desired when quantities of less than normal tiered height are maintained and must be easily accessible at the middle or bottom of a stack.
10. Adequate stack strength can be provided for goods that do not have sufficient strength, or are in low-strength containers, by the use of rack type pallets that support other pallets stacked above on their own structural members.
11. Stacking stability may be improved in some instances for the safety of personnel and merchandise by providing means of holding the unit together. A strip of gummed tape around the top layer of light cartons keeps them together and holds the lower cartons in place. Twine, glue, wire or steel strapping are also common means of stabilizing unit load.

Temporary elevated storage on or for production lines is governed by other rules determined by circumstances. Since materials moving through a plant are not packaged, the containers may be bins or racks on skids or pallets. In order to use space vertically such containers may be provided with stacking means, racks may be built or storage balconies provided under which normal production activities may be continued unaffected by the overhead storage areas. All of these methods, as illustrated here, have been used in small as well as large industrial plants.

A single consideration has been presented here in spite of the diversity of applications in industry. It is that plant expansion does not always necessitate new construction. Before building it may be wise to investigate the possibilities of utilizing more of the vacated overhead space.

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SHIPPING MANAGEMENT JANUARY, 1952

Navy Forecasts Demand

(Continued from Page 23)

nation's timber harvest would be required for packaging materials.

Following are excerpts from the August issue dealing with the activity of the packaging section of the Office of Navy Material and emphasizing the importance of packaging in the defense program:

The Packaging Section maintains a close liaison with the packaging industry and fosters research into new and better packaging methods especially those which promise conservation of materials or savings in cost. With the rearment program stepped up, conservation of critical materials is particularly important. On V-J Day, 50 percent of the timber harvest of the United States was going into packaging materials and estimates today place that percentage short of our mobilization needs for paper, container board, lumber, cellophane, and allied products.

Packaging is big business today and represents a substantial part of our economy. * * * Management in industry is spending eight to nine billions of dollars annually on packaging. Defense packaging is running right at 6 percent, or, to state it another way, three of the fifty billions for the current military procurement program are going into packaging. Any reduction in packaging costs therefore is a price reduction in effect and a saving to the taxpayers who support the defense effort.

Wooden Box & Crate

Package Engineer Reporter

(Continued from Page 18)

and materials handling, there are fifteen employees, and the estimated cost in maintaining the department, he said, was approximately \$80,000 a year from which it is estimated the company derives annual savings of better than a half million dollars represented by cost reductions. These reductions, he said, are passed back to individual plants where the savings have been made. Each plant has a materials handling engineer in charge of packing and materials handling and these men comprise an advisory committee for the over-all consideration of company policies with respect to packing, shipping and materials handling. A significant statement was that about 50% of the employees engaged in the research work are graduate Mechanical Engineers.

Hidden Costs In MH Is Subject Of Jersey Chapter Talk

The New Jersey Chapter of the American Material Handling Society, now one of the largest of the 21 Chapters in the United States and Canada, with 162 members who represent almost every large industry

(Continued on Page 34)

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Packing A Punch

(Continued from Page 11)

successful methods. Businessmen tell us that such study, which can usually be completed in one term with classes one or two nights a week, lops years off the time otherwise spent in mastering a field.

"Many of these courses were developed to help World War II veterans establish themselves quickly in good business jobs, and proved so successful that thousands of non-veterans are now taking them to win advancement. In fact, hundreds of companies are sending picked employees for the training to supply needed abilities in their staff organization."

New Products

(Continued from Page 11)

rates desiccants according to their moisture vapor pick-up. It is designed to be used by the packaging sections of various industries to prevent mold, mildew and rust normally experienced in humid conditions. Due to its higher efficiency, it will enable a savings in metallic barriers and other vitally needed packaging materials.

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Hidden Costs

(Continued from Page 31)

in the state, held a dinner meeting at Military Park Hotel, Wednesday Evening, November 14th.

Robert C. Brady, Director of Research, Material Handling Institute, Pittsburgh, Pa. spoke on "Hidden Costs in Material Handling." Mr. Brady, was formerly supervisor of Industrial and Material Handling Engineering for Ingersoll Steel Division Borg-Warner Corporation, Chicago and author of numerous articles.

Albany Chapter Hears Talk On Reducing In-Process Handling

The second meeting of the Albany District Chapter of the American Material Handling Society, Inc. was held on November 14 at the Hendrick Hudson Hotel, Troy, N. Y.

Mr. E. J. Mills, Supervisor of Transportation and Materials Handling at the General Electric Company's Pittsfield Works, topic was "Reduce Your In-Process Handling." He discussed various types of handling materials from small items to bulk materials as well as the problem of dispatching and scheduling the movements of material handling equipment.

Wirebound Crates Eliminate Dust

(Continued from Page 21)

damage due to container failure has been completely eliminated, which reflects credit upon the shipping department. Formerly, such damage occurred with annoying frequency.



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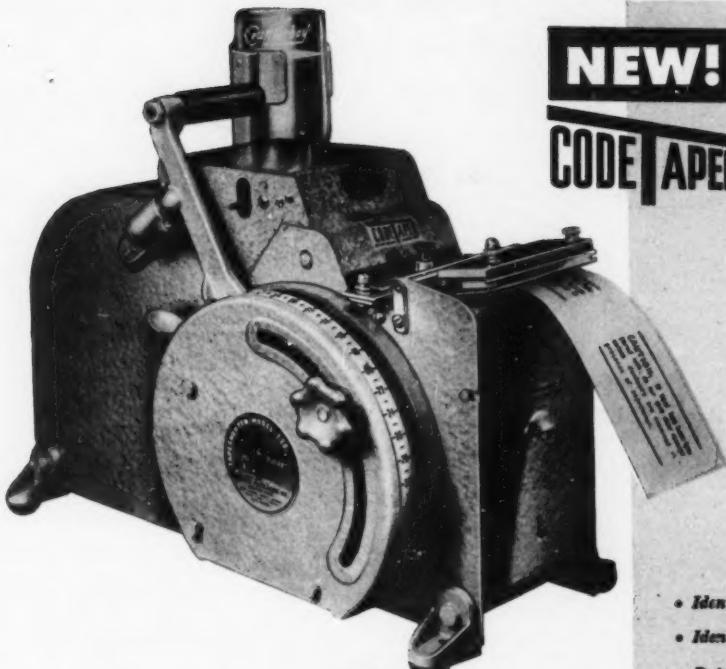
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